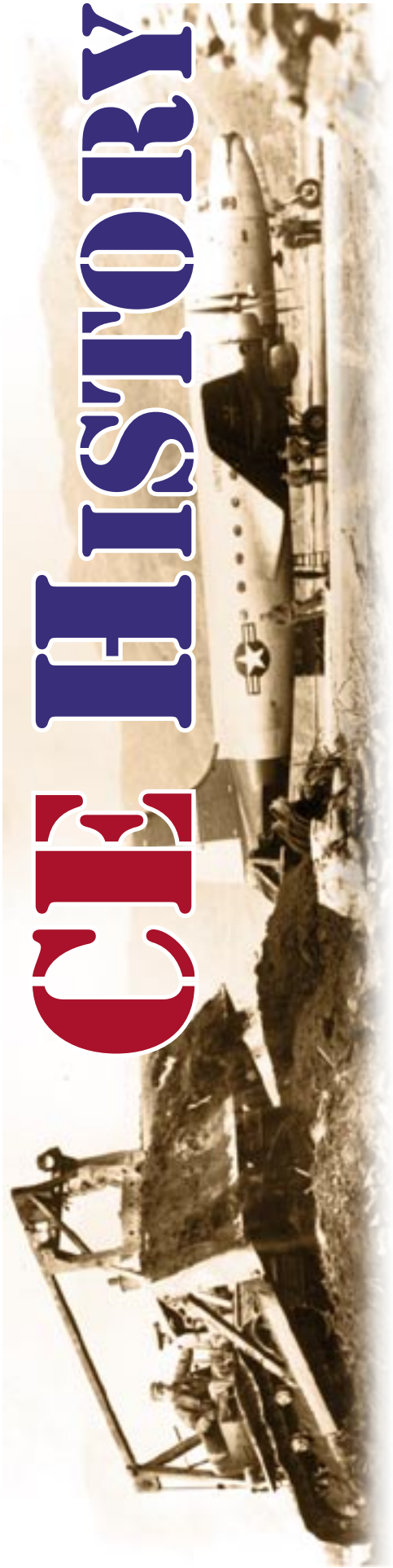

TRAINING EXPERIMENT: THE AVIATION ENGINEER FORCE

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The Air Force has used several different methods to train its engineers: formal skill training, on-the-job training (OJT), contingency skills training, and mobile training teams. In the 1950s, the Air Force was faced with an untrained engineering workforce to support its overseas requirements. The solution was large-scale unit training.

SCARWAF

When the Air Force became a separate service in 1947, responsibility for construction of air bases was given to the Army. For overseas construction, the Army and Air Force created a new organization—SCARWAF (Special Category Army personnel With Air Force). These units were recruited, trained, and equipped by the Department of Army, but were employed in support of Air Force units. The Air Force had little control over the quality of its engineering support. The intense pressures of the early months of the Korean War clearly demonstrated the SCARWAF battalions' inadequacy. They were undermanned, poorly equipped, and described as "totally untrained." Battalion commanders estimated SCARWAF's combat effectiveness to be not more than 10 to 25 percent of equivalent World War II Aviation Engineer Battalions. Something had to be done to remedy the situation.

In the short run, the Air Force contracted with the Vinnell Corporation to provide personnel and equipment to augment SCARWAF troops in Korea and to train them on construction methods and equipment maintenance. Eventually, the contractors ended up doing construction work themselves.

AVIATION ENGINEER FORCE

A longer term solution was proposed in March 1951—the Aviation Engineer Force (AEF). This unit was charged with providing centralized control over aviation engineer units operating and training in the continental United States to assure a suitable level of readiness to perform their overseas mission. Previously, these units were assigned to major air commands and subject to frequent changes in command and piecemeal use on small jobs. As a result, their training and readiness to accomplish their primary mission suffered.

The Air Force established the AEF at Wolters AFB TX, on 10 April 1951 under the direct control of the Commander, Continental Air Command. Its mission was to provide a construction force, trained and equipped for immediate deployment to accomplish Air Force construction in theaters of operation. Between

1951 and 1956, 57 units were assigned to AEF, 33 of which later deployed overseas.

Although AEF was organized to perform training on a battalion-size scale, it quickly became evident that individual training was lacking. The Army was not providing trained personnel. AEF officials estimated that only about 25 percent of the SCARWAF personnel were adequately trained in their primary skill. In response, the Air Force expanded its technical training at F.E. Warren AFB to include courses such as Woodworker, Powerman, Water Supply and Sanitation Technician, and Heating Specialist. As time passed, the unit's OJT program grew to supplement the formal school training.

TRAINING PROJECTS

The heart of the training program was the major air base construction projects performed by a battalion. These units tackled jobs ranging from bridges to airfields. They carved out hundreds of miles of roads and created runways using pierced steel planking. Units also participated in disaster relief projects such as forest fire fighting, tornado cleanup, and flood control. Many of the tasks involved packing up and moving to isolated locations in Alaska, the British West Indies, or Northeast Air Command sites. For example, the 820th Engineer Aviation Battalion moved from Fort Huachuca, AZ, to Beale AFB, CA, to Edwards AFB, back to Beale, then to Alaska before returning to San Francisco and Reserve status.

These types of projects trained engineers in all aspects of their mission. They learned the intricacies of packing, loading, transporting, unloading, and unpacking their equipment, vehicles, and supplies. They discovered flexibility and improvisation when their equipment did not arrive. Large-scale projects brought into play the need for planning, engineering, and construction while using the entire command structure.

Problems blocked the way for the AEF. Many units lacked the equipment required to complete the job, especially for the new units. Battalions experienced a rapid turnover of short-term draftees and a loss of trained personnel for overseas positions. Most of all, there was a host of negative reactions by local communities, local government officials, contractors, and labor unions. The civilian construction industry was materially and politically alert in its attempt to prevent aviation engineer units from undertaking jobs that might be done by them. As a result, many of the AEF's projects were done in places such as Alaska and northern Canada.

OPERATIONAL READINESS

One of the byproducts of the AEF's work was the standardization of an Operational Readiness Reporting System for the battalions. Detailed reporting on training-related construction activities gave the AEF a basis upon which to develop and measure unit capability factors. Three of the five categories for determining a unit's readiness were the result of arithmetic computations, allowing commanders to make fact-based decisions on their unit's capabilities. By 1955, the AEF was well on its way to refining a system that rated units objectively and on established criteria.

SCARWAF ENDED

By September 1955, the AEF had hit its stride and the Air Force was making plans to accept the transfer of all SCARWAF engineers from the Army. However, the Army reversed its earlier approval of the transfer and decided to retain the engineers. The Secretary of Defense, Charles E. Wilson, directed that the SCARWAF system be dissolved by 1 March 1956. On 2 December 1955, the AEF began its phase-out program to meet the 1 March deadline.

Despite its difficulties, the AEF proved the viability of large-scale unit training. The SCARWAF units of 1956 were much better trained to construct air bases overseas than their earlier counterparts. In addition, the AEF proudly pointed out that their training activity showed a net return of 94 cents on the training dollar. They had provided approximately $190 million of in-place construction for the Air Force and in disaster relief. They had demonstrated the effectiveness of unit training on large-scale construction projects and greatly improved the quality of engineering support for overseas operations.